AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A data transmitting device comprising:

a data transmitting and receiving part ~~capable of~~ communicating with a second communication system and transmitting data destined for the second communication system in data frames to the second communication system, wherein

the ~~second communication system~~ data transmitting and receiving part receives, from the second communication system ~~through the data transmitting and receiving part~~, information indicative of a first data amount which ~~can be~~ is successively received by the second communication system; and

the data transmitting device successively transmits, to the second communication system through the data transmitting and receiving part, data frames whose amount corresponds to ~~one data amount of~~ the first data amount ~~and~~ or a second data amount which can be successively transmitted by ~~a~~ the data transmitting and receiving part ~~of the second communication system~~, whichever is not greater ~~the one data amount being no greater than the other data amount~~, wherein

the second data amount is a data amount corresponding to the storage capacity of a temporary memory for data transmission of the data transmitting and receiving part of the data transmitting device while the first data amount is a data amount corresponding to the storage capacity of a temporary memory for data reception of the second communication system.

2. (Currently Amended) The data transmitting device as set forth in claim ~~1~~ 11 wherein,

the second data amount is a data amount corresponding to the storage capacity of a temporary memory for data transmission of the data transmitting and receiving part of the first communication device while the first data amount is a data amount corresponding to the storage capacity of a temporary memory for data reception of the second communication ~~system~~ device.

3. (Currently Amended) The data transmitting device as set forth in claim ~~1~~ 11 wherein,

the ~~data transmitting~~ first communication device receives information indicative of the transmission interval of the respective data frames from the second communication ~~system~~ device through the data transmitting and receiving part, and

the data frames are successively transmitted at an interval ~~no~~ that is not narrower than the transmission interval.

4. (Currently Amended) A data transmitting method comprising:

receiving, from a destination of data transmission, information indicative of a first data amount which ~~can be~~ is successively received by the destination of data transmission, and

transmitting data frames whose amount corresponds to ~~one data amount of~~ the first data amount ~~and~~ or a second data amount which can be successively transmitted to the destination of data transmission, whichever is not greater, ~~the one data amount being no greater than the other data amount~~ wherein

the second data amount is a data amount corresponding to the storage capacity of a data transmission memory for temporarily storing outgoing data, and

the first data amount is a data amount corresponding to the storage capacity of a data reception memory for temporarily storing incoming data in the destination of data transmission.

5. (Currently Amended) The data transmitting method of a data communication system as set forth in claim [[4]] 14 wherein,

the second data amount is a data amount corresponding to the storage capacity of a data transmission memory of the first communication device for temporarily storing outgoing data, and

the first data amount is a data amount corresponding to the storage capacity of a data reception memory of the second communication device for temporarily storing incoming data in the destination of data transmission.

6. (Currently Amended) The data transmitting method as set forth in claim [[4]] 14 wherein

information indicative of an interval, at which the respective data frames are transmitted, is further received from the destination of data transmission when receiving the information indicative of the first data amount from the destination of data transmission; and

the data frames are successively transmitted at an interval ~~no~~ that is not narrower than the interval as indicated.

7. (Canceled)

8. (Currently Amended) A data communication system having at least two multiplex communication devices, comprising:

a first multiplex communication device which is configured to successively receive data frames from a second multiplex communication device, and transmit, to the second multiplex communication device, information indicative of a first data amount which ~~can be~~ is successively received by the second multiplex communication device; and

the second multiplex communication device successively transmits, to the first multiplex communication device, data frames whose amount corresponds to ~~one data amount of~~ the first data amount ~~and~~ or a second data amount which ~~can be~~ is successively transmitted by said second multiplex communication device, whichever is not greater, ~~the one data amount being no greater than the other data amount~~ wherein

the second data amount is a data amount corresponding to the storage capacity of a temporary memory for data transmission of the first multiplex communication device while the first data amount is a data amount corresponding to the storage capacity of a temporary memory for data reception of the second multiplex communication device.

9. (Currently Amended) The data communication system as set forth in claim 8 wherein,

the second multiplex communication device transmits, to the first multiplex communication device, information indicative of an interval at which the respective data frames are transmitted, and

the first multiplex communication device successively transmits the data frames at a frame interval ~~no~~ that is not narrower than the interval as indicated.

10. (Currently amended) A data communication system provided with at least two data transmitting devices as set forth in claim 1 wherein one of the data transmitting devices is the second communication system.

11. (New) A data communication system having a first communication device and a second communication device configured to communicate with each other, the first communication device comprising:

a memory configured to temporarily store data destined for the second communication device;

a data transmitting and receiving part configured to communicate with a second communication device and transmit data to the second communication device by means of data frames;

a comparator configured to compare between a first data amount which is successively received by the second communication device and a second data amount which is successively transmitted by the data transmitting and receiving part;

a selector configured to select a smaller data amount of the first data amount and the second data amount according to the comparison result of the comparator; and

a controller of the data transmitting and receiving part configured to create a packet so that the data frames with a data amount corresponding to the selected data amount are transmitted successively to the second communication device.

12. (New) A data communication system according to claim 11, wherein the second communication device comprises:

a second data transmitting and receiving part configured to communicate with the first communication device and transmit or receive data to each other; and

a second controller of the second data transmitting and receiving part configured to transmit information indicative of the first data amount to the first communication device.

13. (New) A data communication system according to claim 11, wherein

the first communication device transmits information indicative of starting the transmission of the data to the second communication device; and

the second communication device transmits information indicative of the first data amount to the first communication device as the second communication device receives the information indicative of starting the transmission of the data.

14. (New) A data transmitting method of a data communication system having a first communication device and a second communication device, a data transmitting method of the first communication device comprising:

temporarily storing data destined for the second communication device;

comparing between a first data amount which is successively received by the second communication device and a second data amount which is successively transmitted by the first communication device;

selecting a smaller data amount of the first data amount and the second data amount according to the comparison result;

creating a packet by dividing the data by means of data frames so that the data frames with a data amount corresponding to the selected data amount are transmitted successively to the second communication device; and

transmitting the packet to the second communication device.

15. (New) A data transmitting method of a data communication system according to claim 14, a data transmitting method of the second communication device comprising:

transmitting information indicative of the first data amount to the first communication device responsive to a request of the first communication device; and

receiving the packet so that the data frames are received successively.

16. (New) A data transmitting method of a data communication system according to claim 14, wherein

transmitting information indicative of starting the transmission of the data from the first communication device to the second communication device; and

returning information indicative of the first data amount from the second communication device to the first communication device as the second communication device receives the information indicative of starting the transmission of the data.